Clinton DVR

Manual

CE-DVR163

CE-DVR042

CLINTON
ELECTRONICS
CORPORATION

SAFETY PRECAUTIONS

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of insulated dangerous Voltage within the product's enclosure that may be sufficient magnitude to constitute risk of electrical shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE UNITS NOT SPECIFICALLY DESIGNED FOR

Attention: installation should be performed by qualified service Personnel only in accordance with the National Electrical Code or applicable local codes.

Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is the ON position. The power cord is the main power disconnect for all units.

"CAUTION: Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instruction."

Warranty and Service

During the warranty period (one year for Hard Disk), we will repair or replace the hard disk free of charge.
Be sure to have the model number, serial number and vendor sticker on hard disk for service representative.

ABOUT THIS MANUAL

Before installing stand alone DVR, be sure to thoroughly review and follow the instructions in this Users Manual. Pay particular attention to the parts that are marked **NOTICE**.
Also, when connecting an external application, first turn the power OFF and follow manual instruction for appropriate installation.

BEFORE READING THIS MANUAL

1. This document is intended for both the administrator and users of stand alone DVR Models.
2. This manual contains information for configuring, managing and using stand alone DVR Models.
3. To prevent fire or electrical shock, do not expose the product to heat or moisture
4. Be sure to read this manual before using the stand alone DVR.
5. For questions and technical assistance of this product, contact your local dealer.

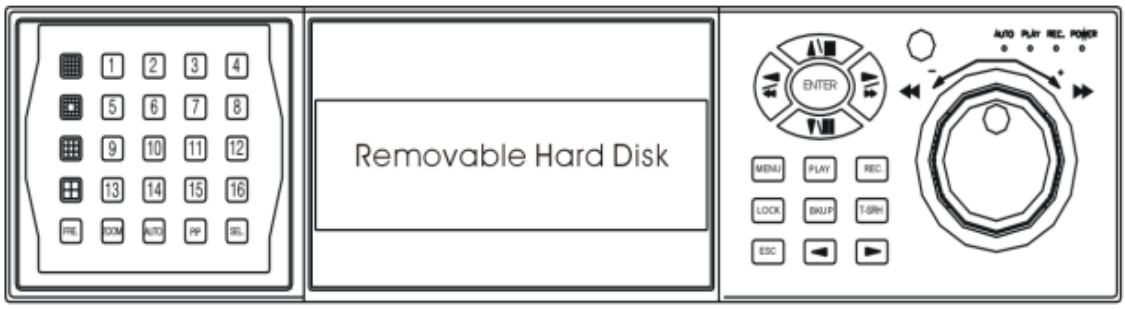
►We strongly recommend before installation of the DVR unit to check the following:

1. Check the electrical service at the location you want to install the DVR unit to ensure all electrical requirements are met.
   Unstable electrical service will cause malfunctions or damage to the DVR unit.
2. Several chips on the main board of the DVR unit and hard disk drive inside the unit generate heat. Ensure proper ventilation around the DVR unit.
   Do not block the exhaust port(fan) on the left side of the unit, or the fresh air intake port (fan) on the right side of the unit.
3. Place the DVR unit in a well-ventilated area and do not place heat-generating devices on or around the unit.
   When it is installed inside 19 inch mounting rack together with other devices, please ensure that the built-in ventilation fan of the rack is properly operating.

Digital Video Recorder
Table of Contents

Safety Precautions	2 & 3
Table of Contents	4
16 CH DVR Front Panel	5
Back Panel	6
4 CH DVR Front Panel	7
Back Panel	8
Installation	9
Log-In	11
Picture	11
Playback	13
Time-Search	13
Basic Operation	15
HDD Information	16
Date-Time Setup	17
Display Setup	18
Camera Setup	19
Buzzer Setup	22
Audio Setup	22
System Setup	24
Advanced Setup	25
Alarm Setup	25
Motion Setup	27
Record Setup	30
TCP-IP Setup	35
Password setup	36
HDD Format	37
Remote View	39
16 CH DVR Specifications and Configuration	44
4 CH DVR Specifications and Configuration	46

16 Channel DVR Front View



16 / 13 / 9 / 4Channel split screen buttons

1/2/3/4/5/6/7/8/9/10/11/12/13/14/15/16 full screen buttons

Picture freeze /Picture zoom in /Auto sequence /Picture in picture / Select channel mode BUTTON

Direction Button Up and Down / Record Stop, Playback Pause/step.

Direction Button Left and Right / Fast and slow Reverse, Fast/slow Forward Playback

Enter Button

Function Menu Button

Image Playback Button

Image Record Button

Key Lock Button

Audio Function Button

Image Playback Time Search Button

Image Record Button

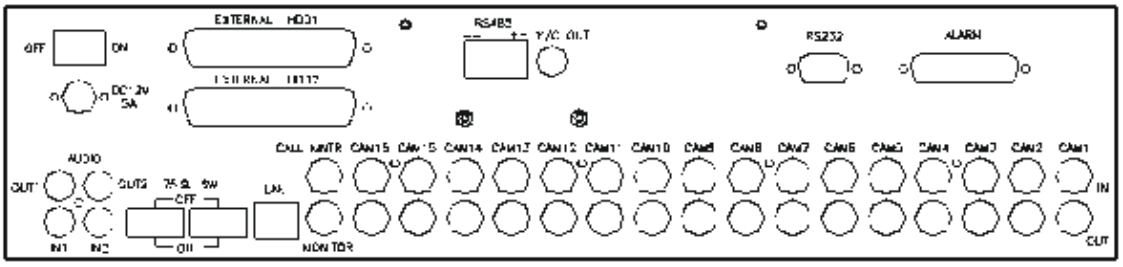
decrease playback speed values change button

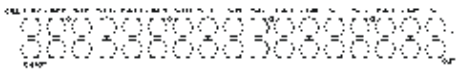
Shuttle

Remote Controller IR

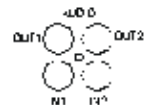
Function LED light display

16 Channel DVR Rear View



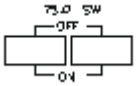


16 Channel Video Input and main/call monitor output



Audio Input. 2 Channel Input, 1 Channel Output (Out 1: Left, Out 2: Right)

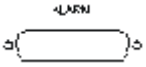
Y/C video monitor output



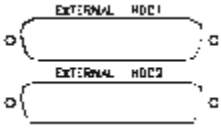
75 OHM High / Low Adjust
Off: channel Loop-out

On: channel Terminated

RS 232 Connector
Factory use ONLY!



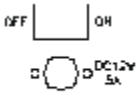
Alarm Connector



HDD BAY connector

Control keyboard connector

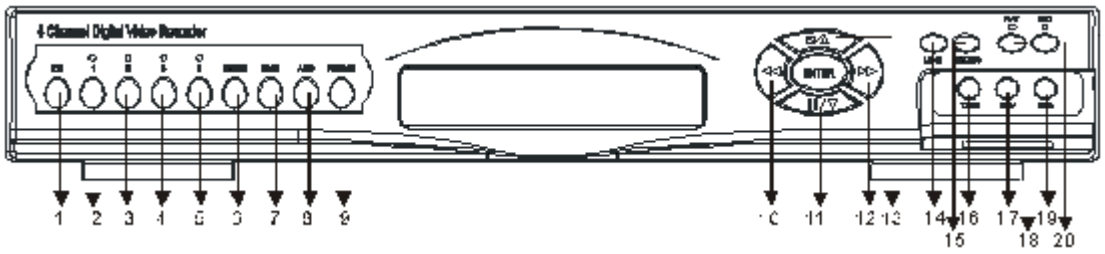
Network connector



Power In / Power switcher

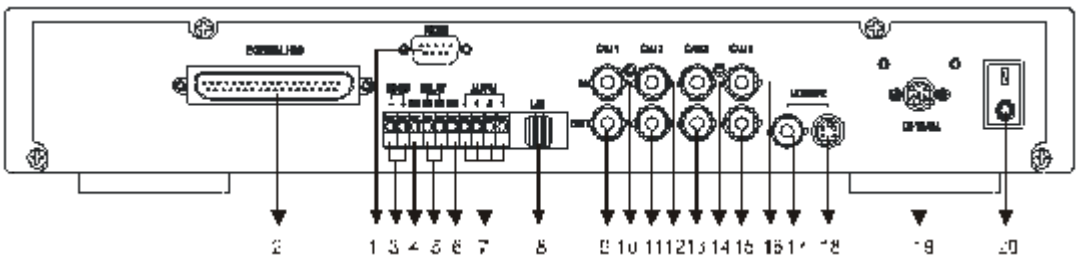
Call Monitor: Sequences through all channels used.
To adjust the dwell interval, go to System Setup in main menu.

4 Channel DVR Front View

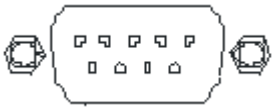


1. ⊞ : 4 quad split screen mode button
2. CHANNEL 1: Channel 1 full screen button
3. CHANNEL 2: Channel 2 full screen button
4. CHANNEL 3: Channel 3 full screen button
5. CHANNEL 4: Channel 4 full screen button
6. FREEZE: Picture freeze mode button
7. ZOOM: Picture zoom in mode button
8. AUTO: Auto sequence mode
9. PIP: Picture in picture mode button
10. REW: Reverse playback choose button
11. STEP/DOWN: Playback pause/Direction button down
12. FF: Forward playback choose button
13. STOP/UP: Press this button to stop playback/Direction button up
14. MENU BUTTON: Press this button to display the menu setup
15. LOCK/ESC: Press this button to Lock function
16. T-SRH: Press this button to playback time search
17. DIRECTION/VALUE CHANGE BUTTON: Playback speed choose (increase)
18. PLAY BUTTON: Press this button to playback
19. DIRECTION/VALUE CHANGE BUTTON: Playback speed choose (reduce)
20. REC BUTTON: Press this button to start recording image

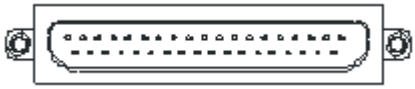
4 Channel DVR Rear View



1. RS-232 IN: FACTORY USE ONLY!



2. EXTERNAL HDD: External IDE HDD bay connector



3. RS-485: RS485 Connector +/-
4. COM:
5. RELAY: Sensor, relay output
6. GND
7. ALARM: Alarm I/O input
8. LAN: Network Connector
9. CAMERA OUTPUT: CAMERA 1 Video image output
10. CAMERA INPUT: CAMERA 1 Video image input
11. CAMERA OUTPUT: CAMERA 2 Video image output
12. CAMERA INPUT: CAMERA 2 Video image input
13. CAMERA OUTPUT: CAMERA 3 Video image output
14. CAMERA INPUT: CAMERA 3 Video image input
15. CAMERA OUTPUT: CAMERA 4 Video image output
16. CAMERA INPUT: CAMERA 4 Video image input
17. MONITOR BNC: Monitor video BNC Connector
18. MONITOR S-VIDEO: Monitor S-Video Connector
19. DC 12V/5A: Power Input
20. POWER: Power Switch ON/OFF

The Clinton DVR

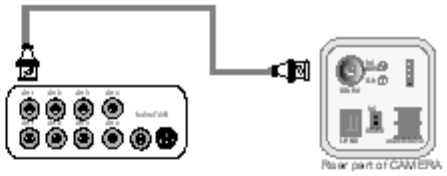
The User Manual is created to help you quickly and efficiently install the Clinton DVR and its most commonly used features. It is important to follow each step in order and read the instructions carefully to ensure proper programming of the DVR unit.

It is also important to know the end-user's requirements in setting up the proper recording schedules. More detailed information on the other features of the DVR are located in the DVR Manual, Located on the remote software CD which was shipped with the DVR.

Installation

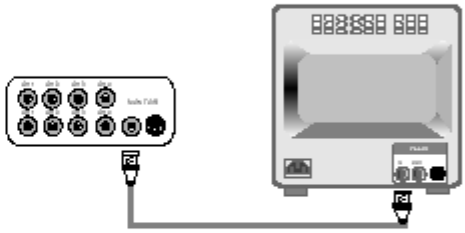
1) Camera Connection

Connect the camera to the CAMERA INPUT on the Rear Panel of the 4 CH DVR.



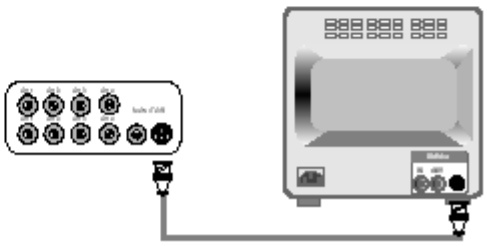
2) Monitor Connection (Composite Connection Method)

Connect the monitor to the MONITOR OUT on the Rear Panel of the 4 CH DVR.

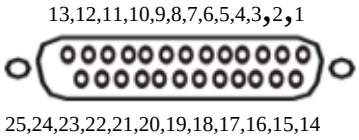


3) Monitor (S-VHS) Connection

Connect S-VIDEO Monitor to MONITOR OUT (S-VHS) on the Rear Panel of the 4 CH DVR.

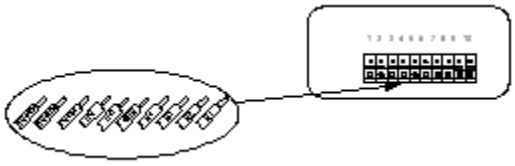


16 Channel DVR Sensor/Alarm Connections:



Pin#	Pin#
1. ALARM SENSOR 1	14. ALARM SENSOR 14
2. ALARM SENSOR 2	15. ALARM SENSOR 15
3. ALARM SENSOR 3	16. ALARM SENSOR 16
4. ALARM SENSOR 4	17. ALARM/MOTION RELAY #2 COM
5. ALARM SENSOR 5	18. ALARM SENSOR GND
6. ALARM SENSOR 6	19. ALARM SENSOR GND
7. ALARM SENSOR 7	20. ALARM SENSOR GND
8. ALARM SENSOR 8	21. ALARM/MOTION RELAY #1 N.C.
9. ALARM SENSOR 9	22. ALARM/MOTION RELAY #1 COM
10. ALARMSENSOR 10	23. ALARM/MOTION RELAY #1 N.O.
11. ALARM SENSOR 11	24. ALARM/MOTION RELAY #2 N.C.
12. ALARM SENSOR 12	25. ALARM/MOTION RELAY #2 N.O.
13. ALARM SENSOR 13	

4Channel DVR Sensor/Alarm Connections:

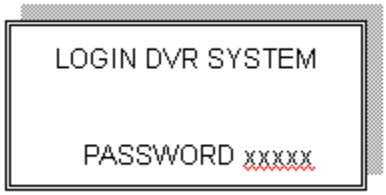


Pin#	Pin#
1. RS 485 -	6. ALARM SENSOR GND
2. RS 485 +	7. ALARM SENSOR 1
3. ALARM/MOTION RELAY COM	8. ALARM SENSOR 2
4. ALARM/MOTION RELAY N.C.	9. ALARM SENSOR 3
5. ALARM/MOTION RELAY N.O.	10. ALARM SENSOR 4

♦Alarm Input: Short-circuit between any alarm sensor and ALARM SENSOR GND is recognized as alarm.

Logging In

1. Press the MENU button to enter into the system.
2. Password enter window pops up:



Password (Account-Admin): 44444
Password (Account-User): 11111

3. Press Numeric button to choose password and unlock the system.

Notice:

1. ADMIN level can setup all menu functions.
2. USER level cannot setup ADVANCED page.

Picture

Full screen or channel split screen display

Press button to display 16 / 13 / 9 / 4 channel split screen on the 16channel DVR.

Press quad button to display 4channel split screen on the 4 channel DVR.

Press numeric buttons to display the desired camera image in full screen.

1.) FREEZE Mode

In live, quad, and full screen mode press (FREEZE) button to freeze image.

Press again to cancel freeze mode.

2.) ZOOM Mode (Display Enlargement)

Go to full screen mode with numeric buttons in live or playback mode, than press to display screen enlargement.

Use buttons to move position of zoomed picture.

3.) AUTO Mode

Press (AUTO) button to begin screen auto sequence.

>No auto sequence in 16 / 13 split screen.
>You can activate auto sequence function in 9-spit, 4-split, PIP or full-screen mode. The 3rd channel will sequence in 9-split screen. 2nd channel will sequence in 4-split screen mode.

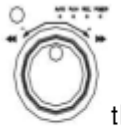
4.) PIP (Picture in Picture)

Press PIP Button

Use button, to select the main channel screen, press button to select desired camera channel in small view (PIP).

5.) SEL (select) 16 Channel ONLY!

>On 13 / 9 / 4 split screen, pressing SEL can change the channel order.



Turn the inner-shuttle or ◁ ▷ button to select the desired camera channel in split-1.

Press change button to change the split-screen position.

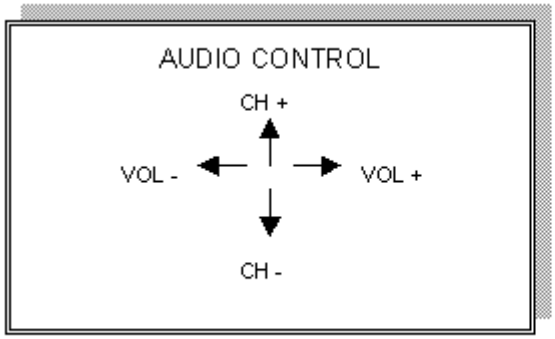
Press SEL button again to cancel the selection function.

6.) KEY LOCK FUNCTION

On the Live or Playback mode, Press LOCK (LOCK)

Only, numeric, freeze, auto, pip, and zoom buttons will work. Press lock key again to enter the log-in window. Enter admin or user password to unlock.

7.) AUDIO BUTTON



CH: choose which audio channel output

VOL: Audio volume values change.

Notice:

1>Recording is stopped during playback.
2>Recording is not possible if camera is not connected.
3>DVR must not be in the PLAY mode, if the user wants to use remote view.
4>DVR must be in Live/Record mode to use remote view.

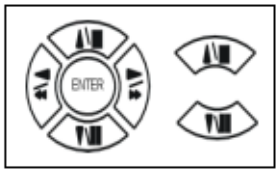
Playback

1. Press PLAY button to begin playback.

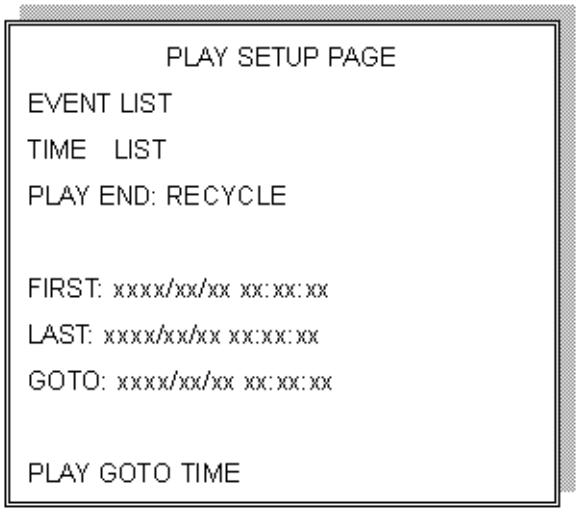
(System will begin playback of the images, backwards from the most recent time.)

Time-Search(T-SRH)

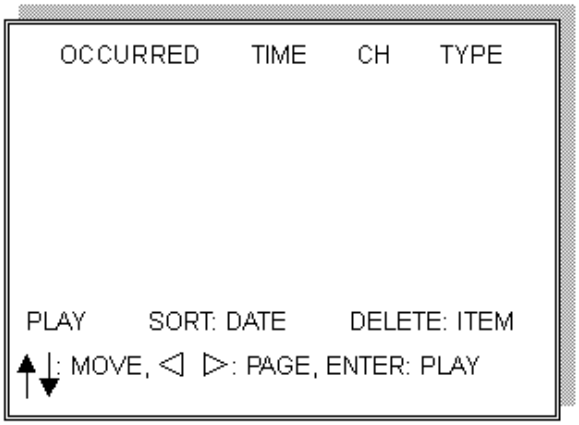
1. Press T-SRH button to activate playback function

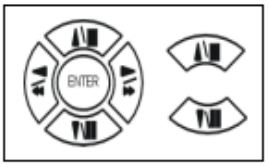


Press direction button UP/DOWN to choose items.



2. Event List (Alarm List): Event source- Video loss/Alarm Trigger
   NOTE: Does NOT record motion events.





Press direction button UP/DOWN to choose items. Press direction buttons LEFT/RIGHT to choose mode. (PLAY / SORT / DELETE)
Press ◁ ▷ values change button to change page.

PLAY: Press ENTER to start Playback.

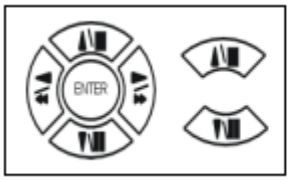
SORT: (16 Channel Only) DATE, alarm events sort by date and time.
CH, alarm events sort by channel.
TYPE, alarm events sort by type.
Press (SEL) button to change sort.

DELETE: (16 Channel Only) ITEM-deletes line items. PAGE-deletes each page.
ALL-deletes all items.
Press (SEL) button to change delete mode.

(4 Channel Only) SORT: Sorts by date only.
(4 Channel Only) DELETE: Deletes by line item only.

3. TIME LIST (Playback image by Time-Search): Recorded image list (by hours)

No items or page display limit. DVR recording mode is continuous.



Press direction button UP/DOWN to choose items.

Press ◁ ▷ values change button to change to next page.

PLAY END: After selected image playback ends, DVR is going to continue to playback this file. Press STOP to stop playback, press RECORD to continue recording.

FIRST: XXXX/XX/XX XX:XX:XX (The first date and time recording display) If HDD has overwritten, the first date and time displayed will change.

LAST: XXXX/XX/XX XX:XX:XX (The final date and time recording displayed). When the user stops recording or goes to a menu, at that moment is the last record.

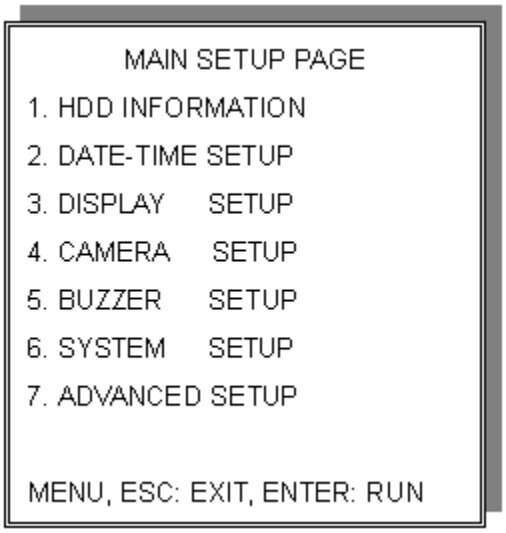
GO TO: XXXX/XX/XX XX:XX:XX Enter the (year / month / day, hour / minute / second) of selected viewing time.

PLAY GO TO TIME: After entering date and time, select PLAY GOTO TIME, press ENTER to start playback.

Press ◁ ▷ values change button or turn inner-shuttle to change date and time values.

Basic Operation

Press MENU button to enter MAIN SETUP PAGE



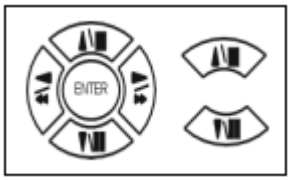
1. Use direction button up/down to select setup item.
2. Press button to enter into sub-menu function.
3. Press sub-menu item with direction button up/down

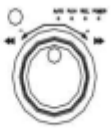
   Or left/right button.
   And change the value with the ◁ ▷ values change buttons.

4. Press ESC/LOCK button to go back to Main Menu or Exit.

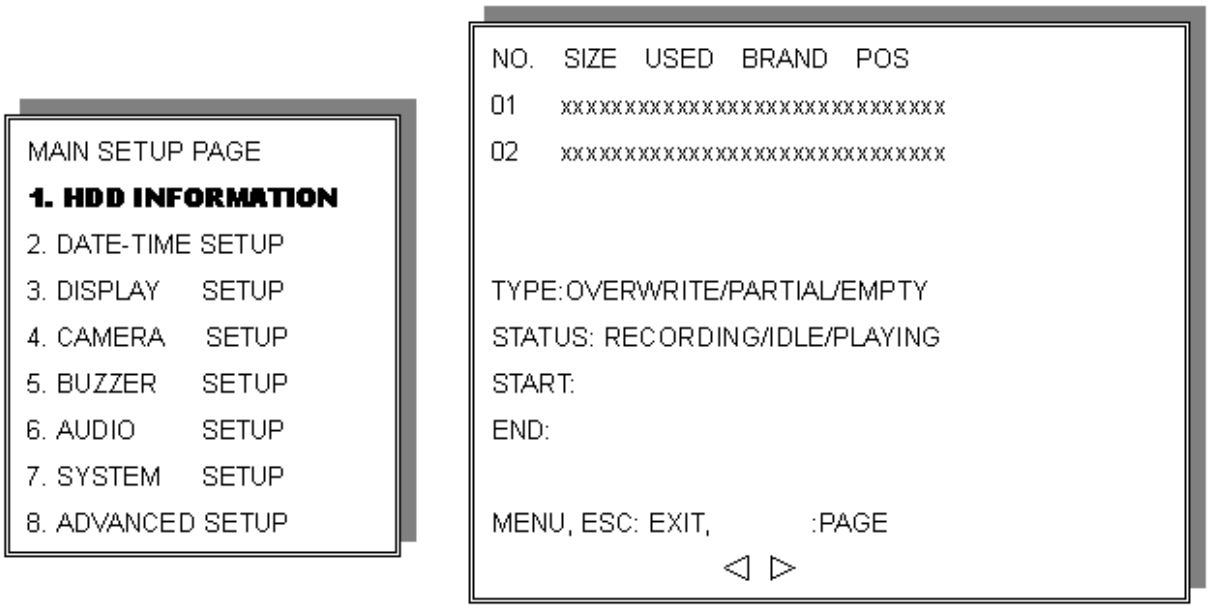
Notice:

1. ADMIN level can setup all menu functions.
2. USER level cannot setup ADVANCED page.



◁ ▷ Press values change button or turn  inner-shuttle to change values.

1. HDD INFORMATION



1. Use direction button up/down button to select HDD INFORMATION item position.
2. Press button to enter sub-menu of HDD INFORMATION item.
3. Press ESC to go back to main menu or exit menu.

Information display is Number, Size, Used, Brand, POS.

>Number: Display's drive number.

>Size: Hard disk capacity display. xxGB.

>Brand: DVR system will auto detect hard disk brand after power is turned on.

>Position: IN-DVR

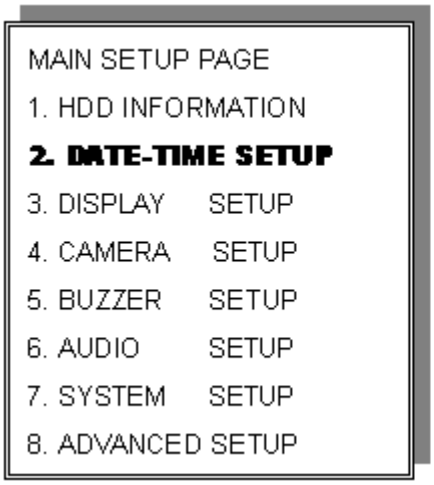
-Type: EMPTY/PARTIAL/OVERWRITE

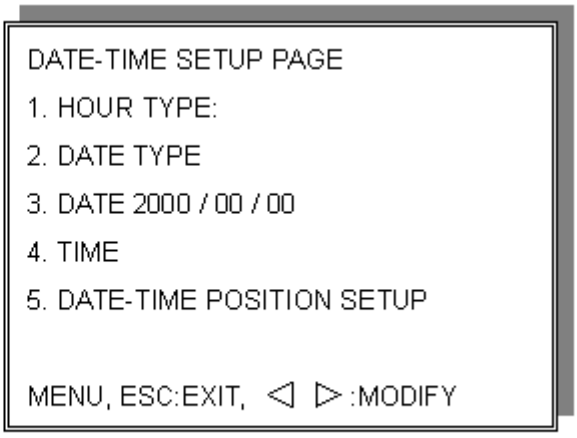
-Status: RECORDING/IDLE/PLAYING

-Start: The first recording date and time display.

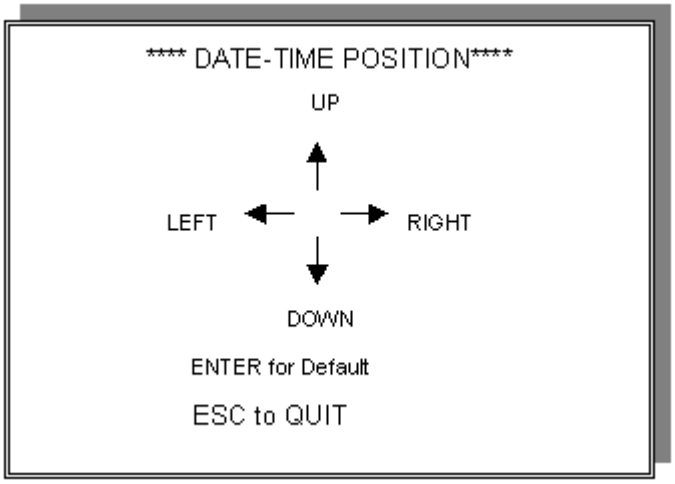
-End: The last recording date and time display.

2. DATE-TIME SETUP

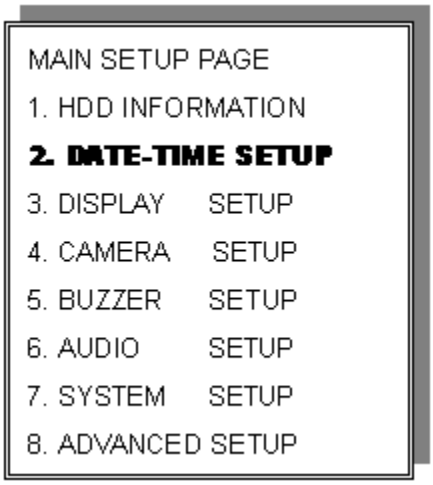


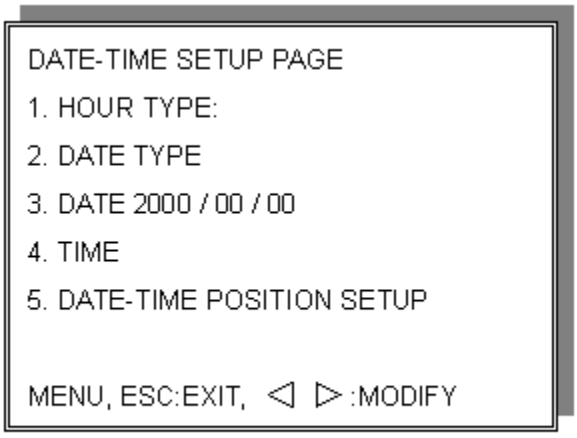


1. HOUR TYPE: 12H:MMSS, 12 Hour Format / 24 Hour Format.
2. DATE TYPE: Y=Year, M=Month, D=Day, ENG=English
3. DATE: XXX/XX/XX Enter Today's date.
   *Please STOP REC function before you change the time!
4. TIME: Use up/down buttons to choose position, use value change buttons ◁ ▷ to change date and time values.
5. DATE-TIME POSITION SETUP: Press direction buttons to choose items or move date-time position.



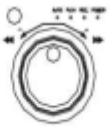
3. Display Setup



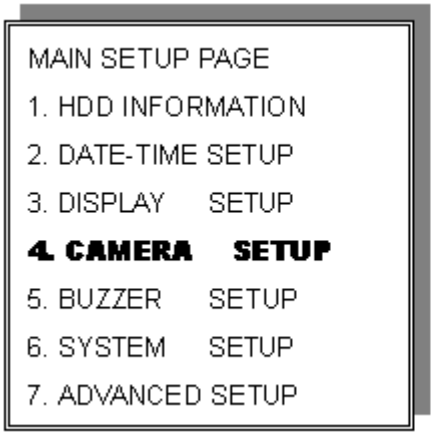


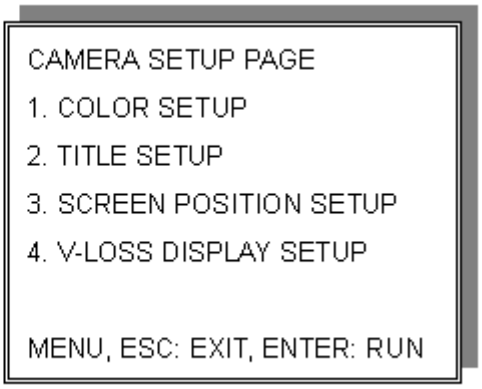
1. DATE-TIME: Date and Time caption display mode.
2. CAMERA TITLE: Camera Title caption display mode.
3. PB DATE-TIME: Playback date and time caption display mode.
4. PB CAMERA TITLE: Playback camera title caption display mode.
5. DVR STATUS: DVR System Field, record, playback, audio caption display mode.
6. BORDER SET: Border color WHITE, YELLOW, CYAN, GREEN, MEGENTA, RED, BLUE, BLACK, GRAY.

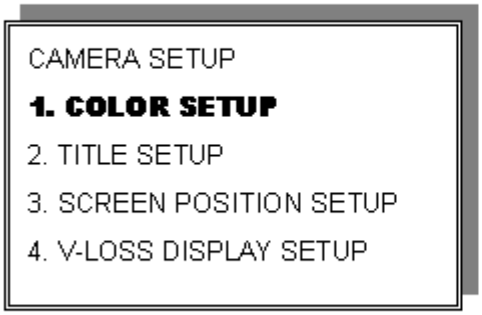
Press direction buttons to choose the desired item.

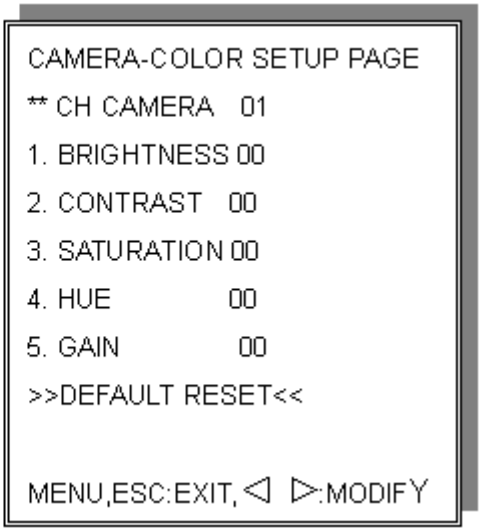
◁ ▷ Press values change button or turn  inner-shuttle to change values.

4. Camera Setup









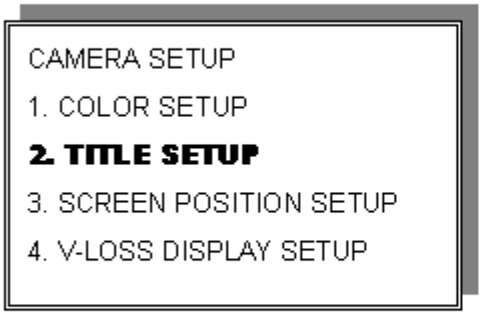
CAMERA-COLOR SETUP: Adjust Camera Image

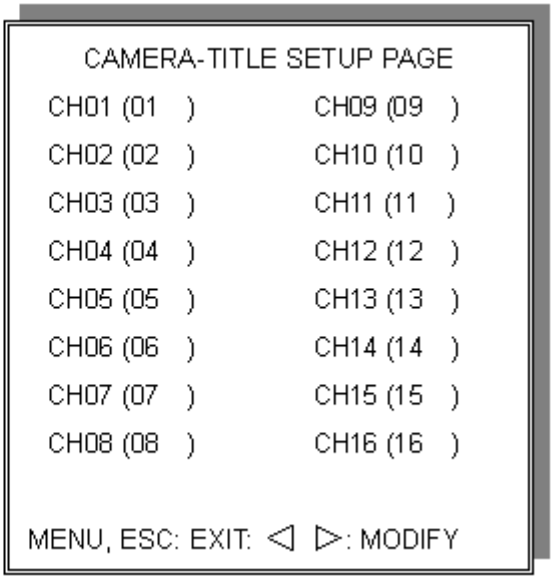
CH NUMBER:	Select camera	
BRIGHTNESS:	Adjust screen brightness	(-31~+32)
CONTRAST:	Adjust color contrast	(-31~+32)
SATURATION:	Adjust color saturation	(-31~+32)
HUE:	Adjust color hue	(-31~+32)
GAIN:	Adjust image signal level	(-31~+32)

>>DEFAULT RESET<<: Press ENTER button to reset DVR values.

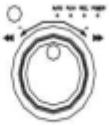
>Right adjustment of each element in COLOR setup will increase picture quality displayed. We recommend that you adjust each element of COLOR SETUP for cameras and monitor to be connected to the DVR unit.

TITLE SETUP: Input TITLE of each camera. 7 characters max.

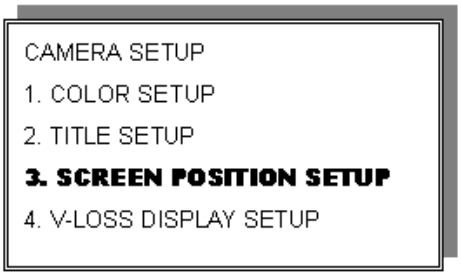


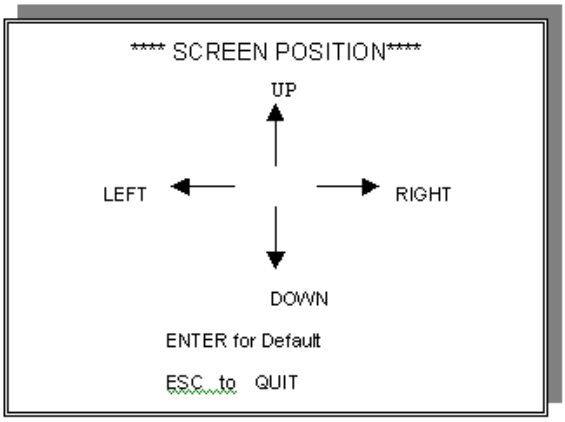


Press direction button up/down, left/right to choose items and positions.

◁ ▷ Press values change button or turn  inner-shuttle to change values.

(3.) SCREEN POSITION SETUP





1. Press direction buttons up/down, left/right to move screen position.

2. Press ENTER button for default.

3. Press ESC button to quit

(4.) V-LOSS DISPLAY SETUP

(Video Loss Detection)

CAMERA SETUP
1. COLOR SETUP
2. TITLE SETUP
3. SCREEN POSITION SETUP
4. V-LOSS DISPLAY SETUP

VLOSS SETUP PAGE
**VLOSS FUNCTION:

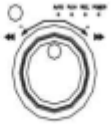
VLOSS 01:	VLOSS 09:
VLOSS 02:	VLOSS 10:
VLOSS 03:	VLOSS 11:
VLOSS 04:	VLOSS 12:
VLOSS 05:	VLOSS 13:
VLOSS 06:	VLOSS 14:
VLOSS 07:	VLOSS 15:
VLOSS 08:	VLOSS 16:

MENU, ESC: EXIT: ◁ ▷: MODIFY

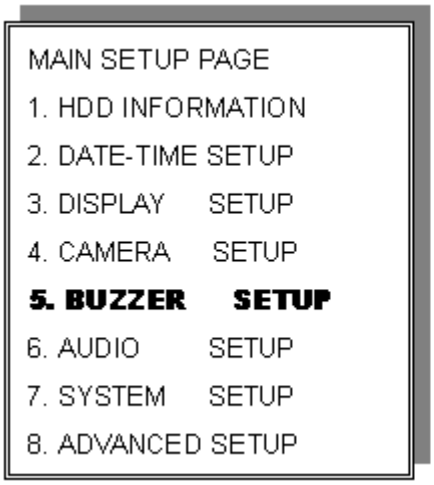
** VLOSS FUNCTION: ON / OFF

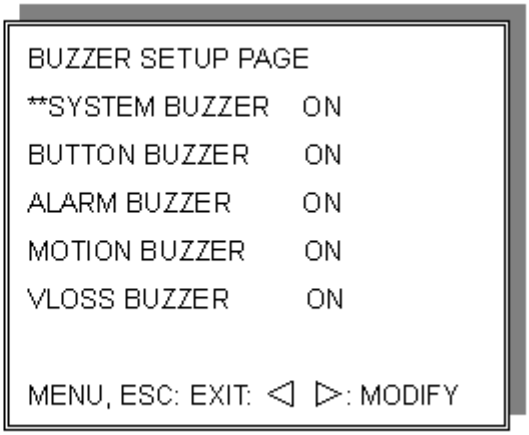
VLOSS 01:	ON / OFF	VLOSS 9:	ON / OFF
VLOSS 02:	ON / OFF	VLOSS 10:	ON / OFF
VLOSS 03:	ON / OFF	VLOSS 11:	ON / OFF
VLOSS 04:	ON / OFF	VLOSS 12:	ON / OFF
VLOSS 05:	ON / OFF	VLOSS 13:	ON / OFF
VLOSS 06:	ON / OFF	VLOSS 14:	ON / OFF
VLOSS 07:	ON / OFF	VLOSS 15:	ON / OFF
VLOSS 08:	ON / OFF	VLOSS 16:	ON / OFF

Press direction buttons up/down, left/right to choose items.

◁ ▷ Press values change button or turn  inner-shuttle to change values.

5. Buzzer Setup

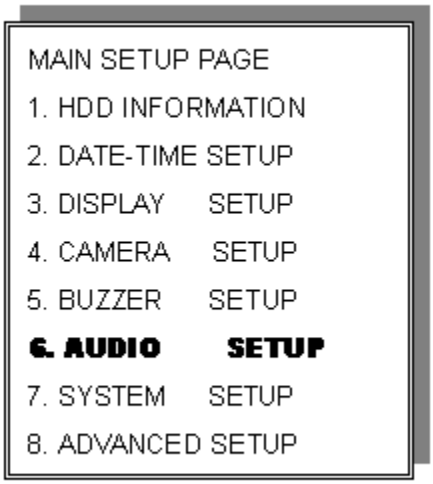


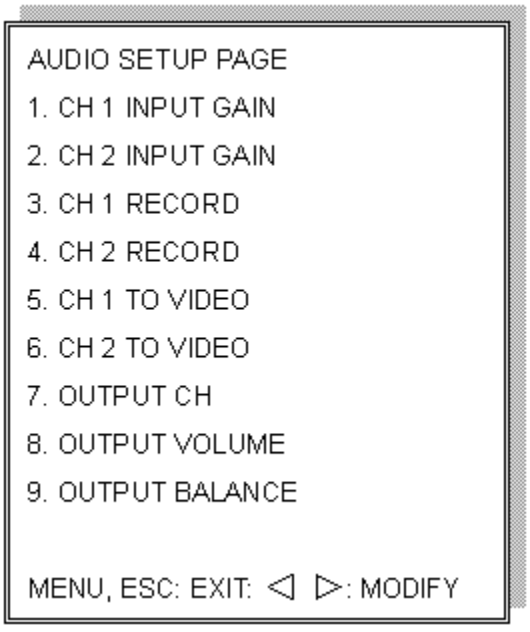


**SYSTEM BUZZER: Controls all buzzer functions:> ON/OFF

1. BUTTON BUZZER:> ON/OFF
2. ALARM BUZZER:> ON/OFF
3. MOTION BUZZER:> ON/OFF
4. VLOSS BUZZER:> ON/OFF

AUDIO SETUP

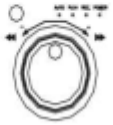



AUDIO SETUP PAGE
1. CH 1 INPUT GAIN
2. CH 2 INPUT GAIN
3. CH 1 RECORD
4. CH 2 RECORD
5. CH 1 TO VIDEO
6. CH 2 TO VIDEO
7. OUTPUT CH
8. OUTPUT VOLUME
9. OUTPUT BALANCE
MENU, ESC: EXIT: ◁ ▷: MODIFY

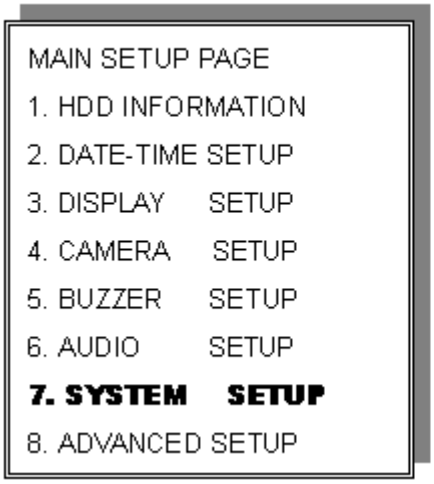
1) CH 1 INPUT GAIN
   - 00~15.
2) CH 2 INPUT GAIN
   - 00~15.
3) CH 1 RECORD. Channel 1 audio record function.
   - ON / OFF
4) CH 2 RECORD. Channel 2 audio record functions.
   - ON / OFF
5) CH 1 TO VIDEO. Selects video for Channel 1 audio input.
   - NONE, CH 1~16.
6) CH 2 TO VIDEO. Select video for Channel 2 audio input.
   - NONE, CH 1~16.
7) OUTPUT CH. Selects audio channel 1 or 2 to audio output.
   - 1 / 2
8) OUTPUT VOLUME. Audio volume
   - 00~31
9) OUTPUT BALANCE. Speaker balance
   - 31~+31

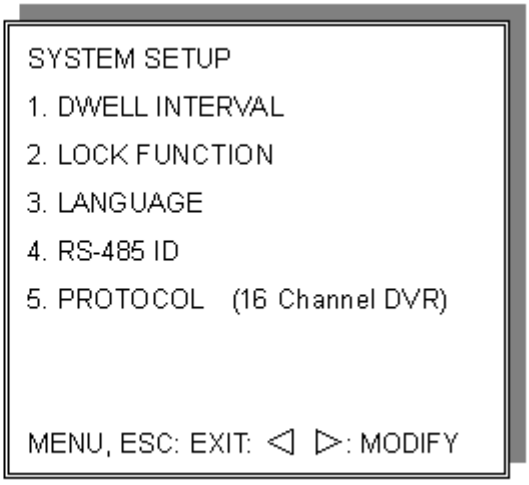
NOTE: MUST be in full screen mode with selected audio channel, or in the audio menu to hear the audio.

Press direction buttons up / down to choose items.

◁ ▷ Press values change button or turn  inner-shuttle to change values.

6. System Setup





SYSTEM SETUP

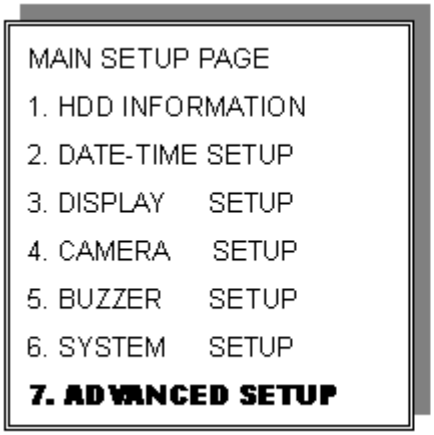
1. DWELL INTERVAL: CALL MONITOR SEQUENCE ENTERED
   - 0 ~ 999SEC
2. LOCK FUNCTION:
   - ON / OFF
3. LANGUAGE:
   - ENGLISH / CHINESE
4. RS-485 ID:
   - 01 ~ 16
5. PROTOCOL: 16 Channel DVR ONLY!!
   - HISHARP / KEYB / LILIN / PELCO-P / PELCO-D

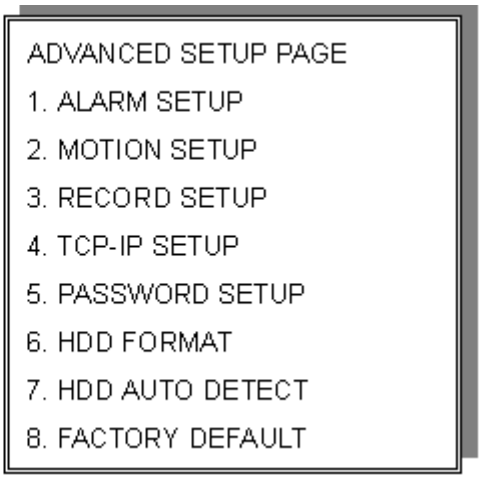
RS-485 ID and protocol is the command for system control keyboard. Omit if user does not use keyboard to control.

Press direction buttons up/down to choose items.

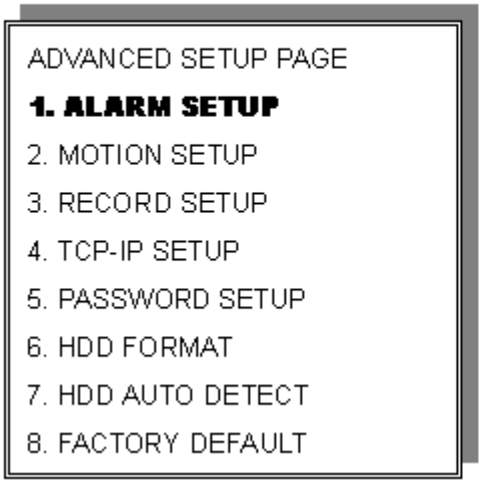
◁ ▷ Press values change buttons to change values.

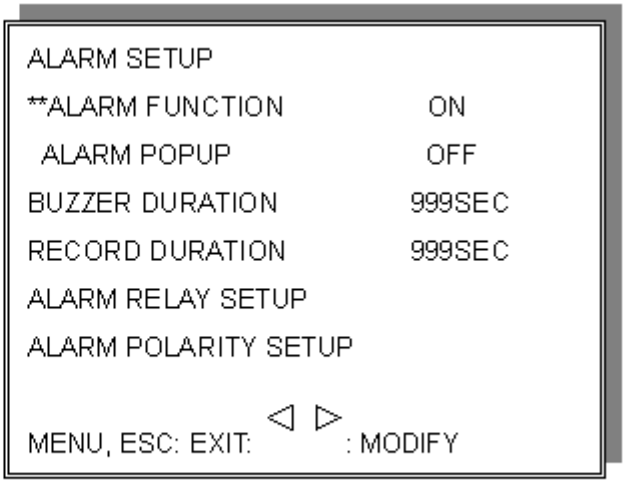
7. Advanced Setup





ALARM SETUP





ALARM POPUP: ON/OFF Display's ALARM Number on screen when activated.

BUZZER DURATION: 0 ~ 999 Seconds
RECORD DURATION: 0 ~ 999 Second

>ALARM SENSOR RELAY SETUP<

1. ALARM01: OFF. / RL1 / RL2 / BOTH
2. ALARM02: OFF. / RL1 / RL2 / BOTH
3. ALARM03: OFF. / RL1 / RL2 / BOTH
4. ALARM04: OFF. / RL1 / RL2 / BOTH
5. ALARM05: OFF. / RL1 / RL2 / BOTH
6. ALARM06: OFF. / RL1 / RL2 / BOTH
7. ALARM07: OFF. / RL1 / RL2 / BOTH
8. ALARM08: OFF. / RL1 / RL2 / BOTH
09. ALARM09: OFF. / RL1 / RL2 / BOTH
10. ALARM10: OFF. / RL1 / RL2 / BOTH
11. ALARM11: OFF. / RL1 / RL2 / BOTH
12. ALARM12: OFF. / RL1 / RL2 / BOTH
13. ALARM13: OFF. / RL1 / RL2 / BOTH
14. ALARM14: OFF. / RL1 / RL2 / BOTH
15. ALARM15: OFF. / RL1 / RL2 / BOTH
16. ALARM16: OFF. / RL1/ RL2 / BOTH

>ALARM POLARITY SETUP<

1. ALARM01: N.C. / N.O. / OFF
2. ALARM02: N.C. / N.O. / OFF
3. ALARM03: N.C. / N.O. / OFF
4. ALARM04: N.C. / N.O. / OFF
5. ALARM05: N.C. / N.O. / OFF
6. ALARM06: N.C. / N.O. / OFF
7. ALARM07: N.C. / N.O. / OFF
8. ALARM08: N.C. / N.O. / OFF
09. ALARM09: N.C. / N.O. / OFF
10. ALARM10: N.C. / N.O. / OFF
11. ALARM11: N.C. / N.O. / OFF
12. ALARM12: N.C. / N.O. / OFF
13. ALARM13: N.C. / N.O. / OFF
14. ALARM14: N.C. / N.O. / OFF
15. ALARM15: N.C. / N.O. / OFF
16. ALARM16: N.C. / N.O. / OFF

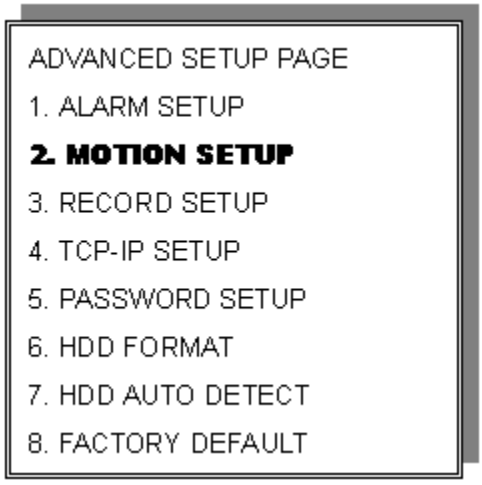
♦NOTE: 4 Channel DVR has 1 (One) relay: ON/OFF

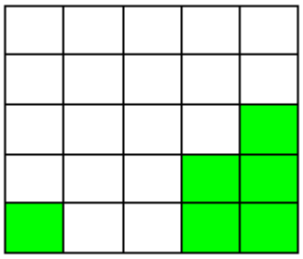
MOTION SETUP

To record motion, the following parameters must be set

In the RECORD SETUP Menu, the RECORD MOTION selection must be set to the ON position, and the RECORD START selection must be set to the OFF position.

In the MOTION SETUP Menu, The MOTION FUNCTION selection must be set to the ON position, and the MOTION ACTIVE selection must be set to ON for each channel requiring motion to be recorded.





1 Section

1 Block
Adjacent sections
= 1 Block

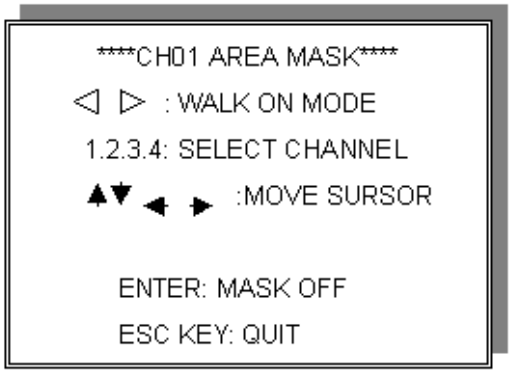
**MOTION FUNCTION: all channels ON/OFF
**CHANNEL NUMBER: 1 ~ 16
1. DETECT NUMBER: Number of sections that will activate motion. 1 ~ 32
2. SENSITIVITY: Adjust motion Detection Sensitivity. 1 ~ 32
1= Lowest sensitivity, 32= Highest sensitivity
3. VELOCITY: Adjusts speed of motion sensitivity for slow movement.
1=slow moving objects not detected, 32=all movement detected.
4. MOTION ACTIVE: Individual channel motion ON/OFF
5.RECORD DURATION: 0 ~ 999 SEC
6.RELAY DURATION: 0 ~ 999 SEC

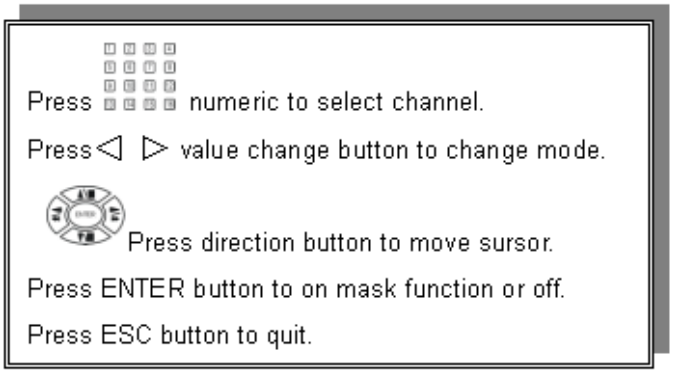
>MOTION AREA SETUP<
>MOTION RELAY SETUP<

>MOTION AREA SETUP<

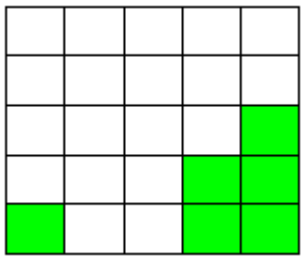
FACTORY DEFAULT is all sections set to ON (GREEN)
**If application requires all sections set to ON, there are no changes to this menu required.

If changes are required then press ENTER to turn MASK ON.



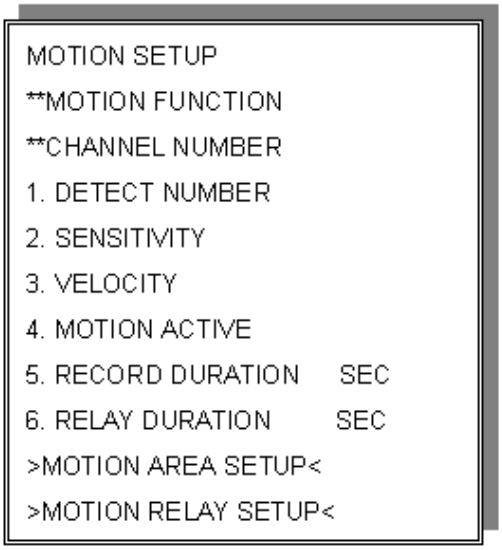

Press numeric to select channel.
Press ◁ ▷ value change button to change mode.
Press direction button to move sursor.
Press ENTER button to on mask function or off.
Press ESC button to quit.

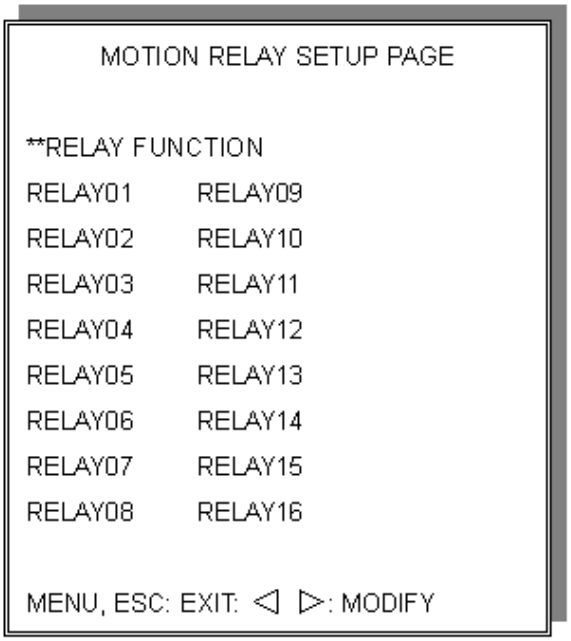
WALK ON MODE: Select single sections by moving pink cursor.
WALK OFF MODE: Clear single sections by moving blue cursor.
BLOCK ON MODE: Select blocks by moving cursor horizontally than vertically.
BLOCK OFF MODE: Clear blocks by moving cursor horizontally than vertically.
ALL ON MODE: Select all area mode ON. (SELECT)
NOTE: FACTORY DEFAULT
ALL OFF MODE: Select all area mode. OFF (CLEAR)



1 Section 1 Block
Adjacent Sections=1 Block

>MOTION RELAY SETUP<





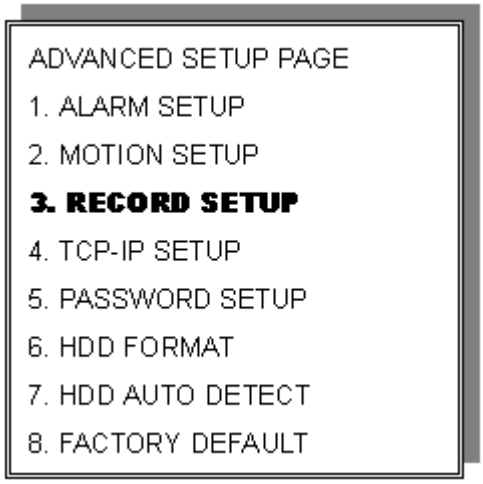
*RELAY FUNCTION OFF/ON

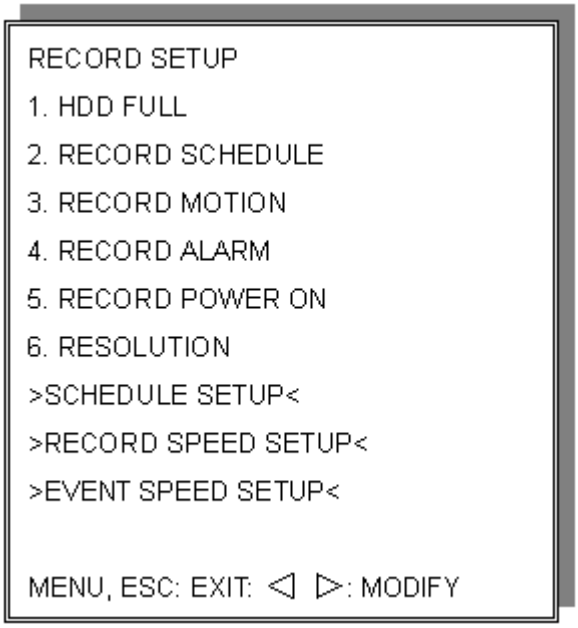
CH1 RELAY: OFF / RL1 / RL2 / BOTH
CH2 RELAY: OFF / RL1 / RL2 / BOTH
CH3 RELAY: OFF / RL1 / RL2 / BOTH
CH4 RELAY: OFF / RL1 / RL2 / BOTH
CH5 RELAY: OFF / RL1 / RL2 / BOTH
CH6 RELAY: OFF / RL1 / RL2 / BOTH
CH7 RELAY: OFF / RL1 / RL2 / BOTH
CH8 RELAY: OFF / RL1 / RL2 / BOTH

CH09 RELAY: OFF / RL1 / RL2 / BOTH
CH10 RELAY: OFF / RL1 / RL2 / BOTH
CH11 RELAY: OFF / RL1 / RL2 / BOTH
CH12 RELAY: OFF / RL1 / RL2 / BOTH
CH13 RELAY: OFF / RL1 / RL2 / BOTH
CH14 RELAY: OFF / RL1 / RL2 / BOTH
CH15 RELAY: OFF / RL1 / RL2 / BOTH
CH16 RELAY: OFF / RL1 / RL2 / BOTH

♦NOTE: 4 Channel DVR has 1 (ONE) relay: ON/OFF

Record Setup





1) HDD FULL: When the hard drive is full, The DVR will overwrite or stop recording.
OVERWRITE/STOP REC (your choice)

2) RECORD SCHEDULE: Time SCHEDULE record mode is on or off. ON/OFF

3) RECORD MOTION: Motion detection record mode is on or off. ON/OFF

4) RECORD ALARM: Alarm event record mode on or off. ON/OFF

5) RECORD START ON: Always record after power is turned on. ON/OFF

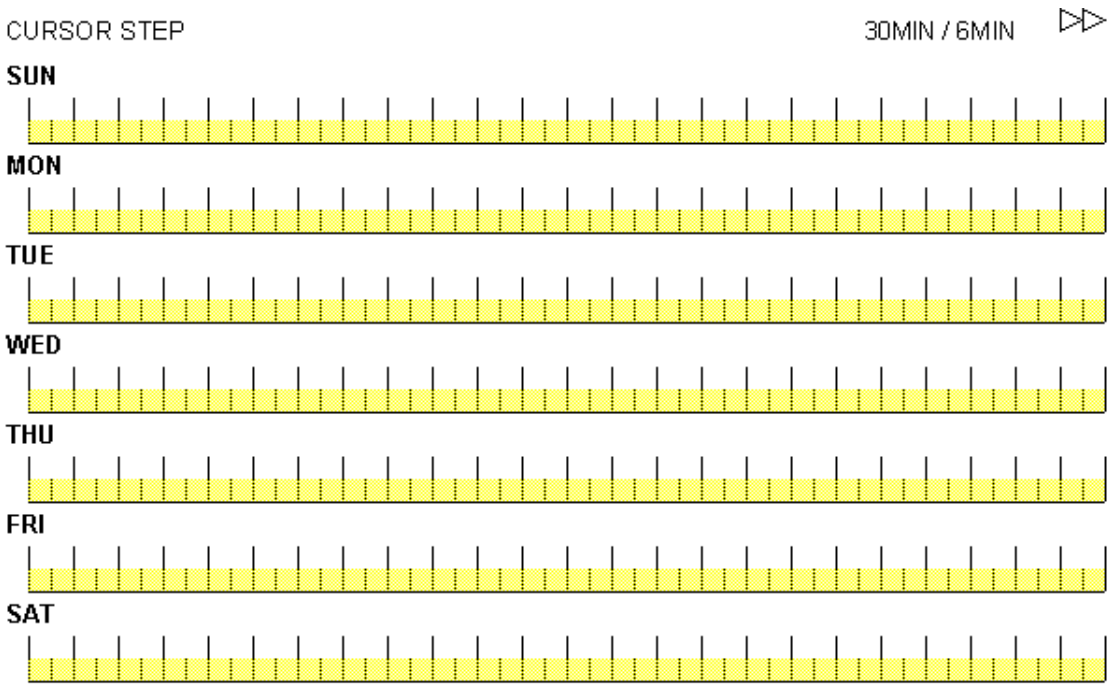
6) RESOLUTION: Record image quality setup. SUPER / HIGH / FINE / NORMAL / LOW

Press direction buttons up/down to choose items.

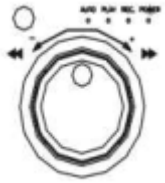
>SCHEDULE SETUP<

◁ ▷

Here is where you choose from a 6-minute interval schedule, or a 30-minute interval schedule by pressing the value change buttons.



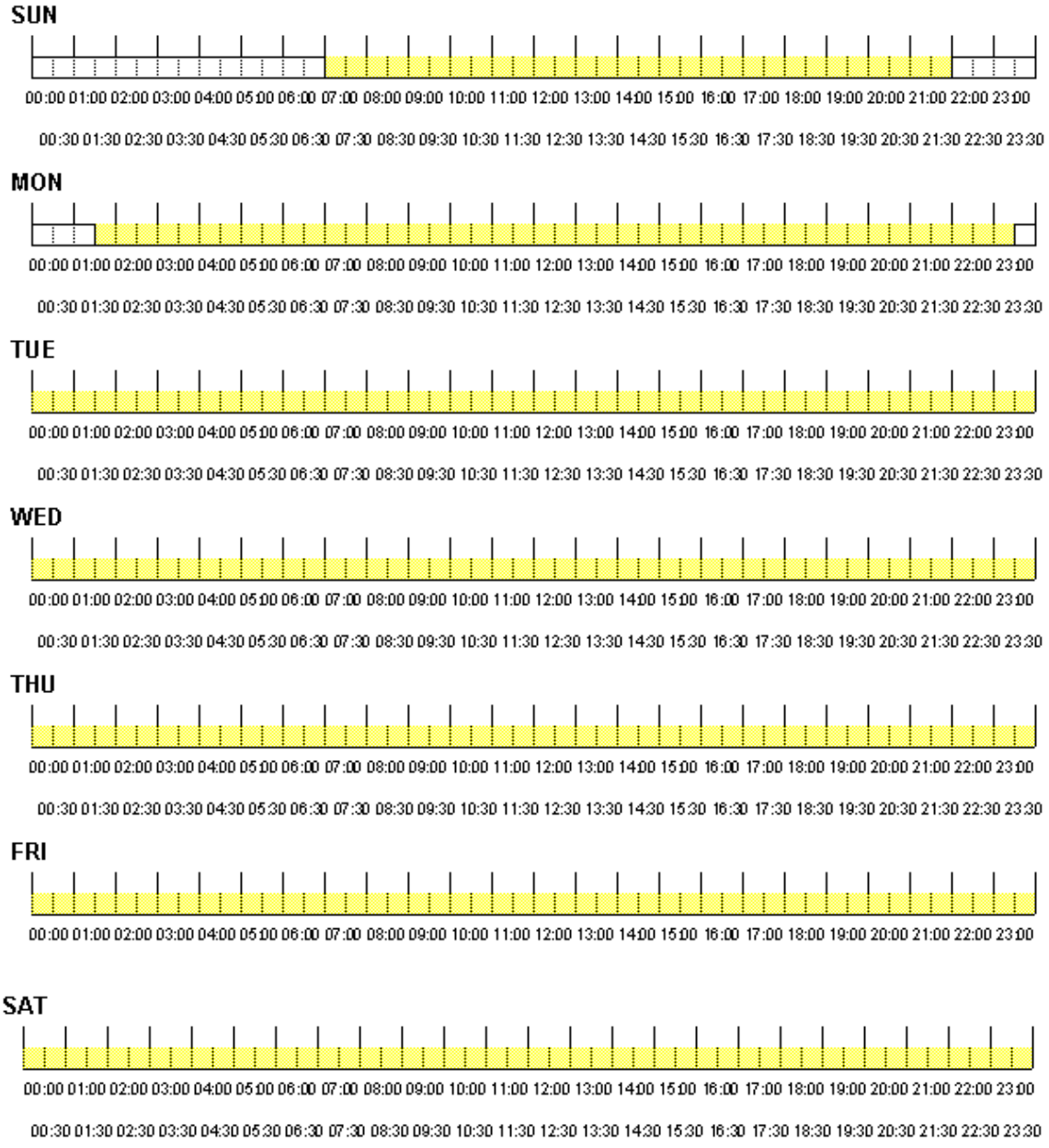
Press direction buttons UP/DOWN for day, LEFT/RIGHT for time.



◁ ▷ Or

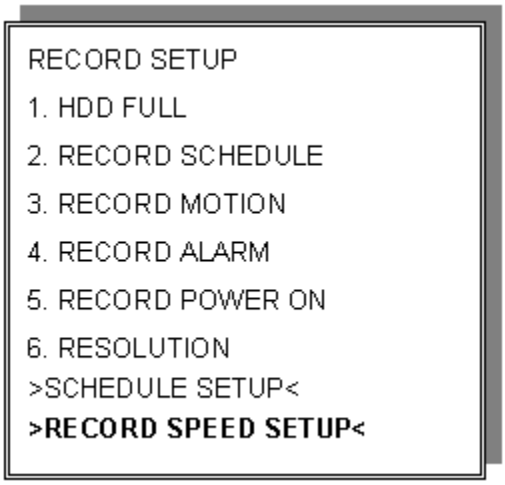
Press value change buttons left/right or shuttle dial to select schedule time area or clear.

SCHEDULE SETUP 30MIN ▷▷



For example: TUES ~ SAT, all day schedule time recording, but on SUN 7:00 ~ 22:00 and MON 1:30 ~ 11:30 are schedule recording. User can press ENTER to see the schedule time area difference.

>RECORD SPEED SETUP<



RECORD SPEED SETUP PAGE

TOTAL SPEED: FULL (30fps) / HALF(15fps) / 10 fps / 5 fps / 2 fps

**Note: per channel speed= Total speed divided by number of channels being recorded.

Example: FULL (30fps) ÷ 4 channels recording = 7.5fps per channel

	REC	EVT
CH 01:	A / X / P	A / X / P
CH 02:	A / X / P	A / X / P
CH 03:	A / X / P	A / X / P
CH 04:	A / X / P	A / X / P

A: Always record

X: No record

P: Priority record

"A" Records frame sequence as follows:

Channel 1 – 1st frame

Channel 2 – 2nd frame

Channel 3 – 3rd frame

Channel 4 – 4th frame

"P" Records frame sequence as follows:

Example #1: Channel 1 Set to "P"

Channel 1 – 1st frame

Channel 2 – 2nd frame

Channel 1 – 3rd frame

Channel 3 – 4th frame

Channel 1 – 5th frame

Channel 4 – 6th frame

Example #2: Channel 1 and 2 Set to "P"

Channel 1 – 1st frame

Channel 2 – 2nd frame

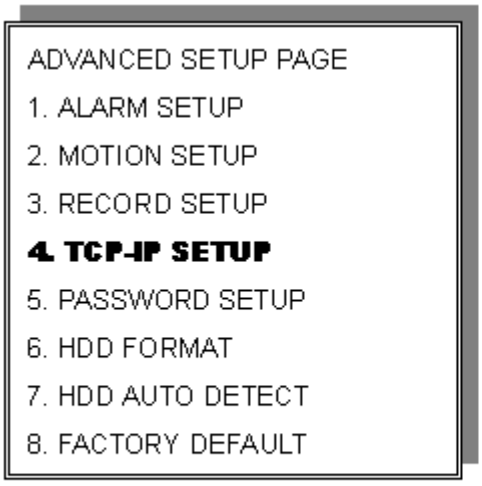
Channel 3 – 3rd frame

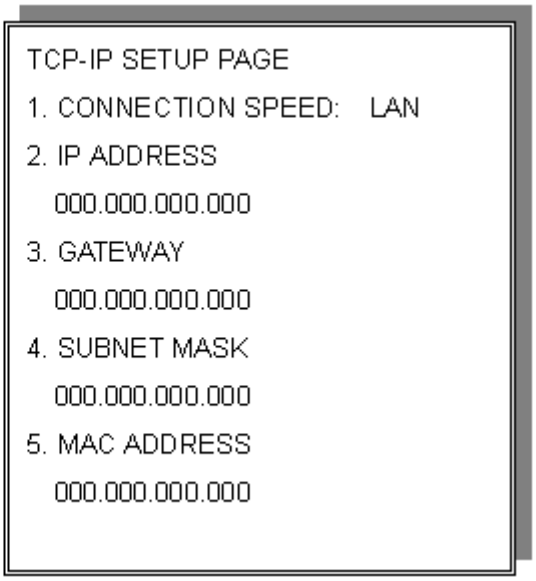
Channel 1 – 4th frame

Channel 2 – 5th frame

Channel 4 – 6th frame

TCP-IP SET UP





>TCP-IP SETUP

CONNECTION SPEED: LAN / 512K / 64K

IP ADDRESS

192.168.192.250 0080 (Factory Default)

GATEWAY

192.168.192.001 (Factory Default)

SUBNET MASK

255.255.255.000 (Factory Default)

MAC ADDRESS

XXXXXXXXXXXX. Machine number, user cannot change.

>Network Requirement:

LAN (Local Area Network)

1) Enter DVR local IP address such as 192.168.0.5, or use the factory default.

2) After setting DVR network setting, install the remote viewer software to computer. Computer network IP also needs to be set on local IP address such as 192.168.0.6. DVR and computer IP address cannot be the same. Subnet mask, between DVR and computer must be the same.

*DEFAULT PORT IS 80!!

WAN (World Area Network)

1) Enter IP Gateway address to DVR TCP-IP setup.

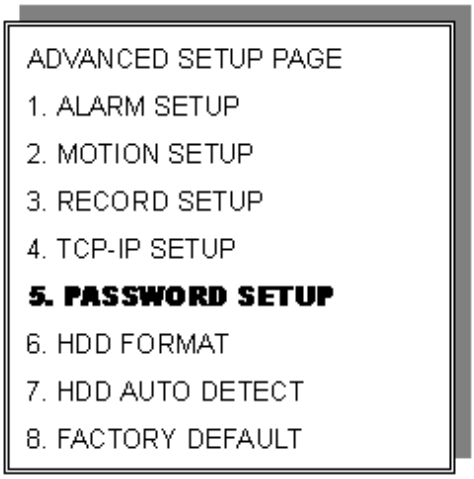
2) User may change connection speed to 512K, to reduce image data on slower networks. Network traffic jams, always make data transfer slow, this is normal.

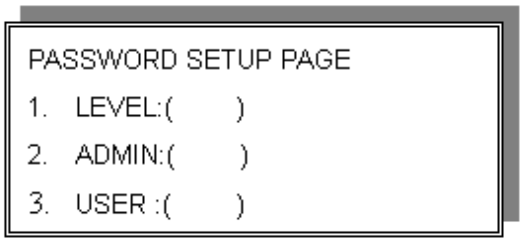
3) After DVR TCP-IP setup, install the remote viewer to computer.

*See the remote viewer page

-Port is 0080 normally, may be different, depending on network company area.

PASSWORD SETUP





a. LEVEL (Log In level ID type setup) >NONE / ADMIN / USER

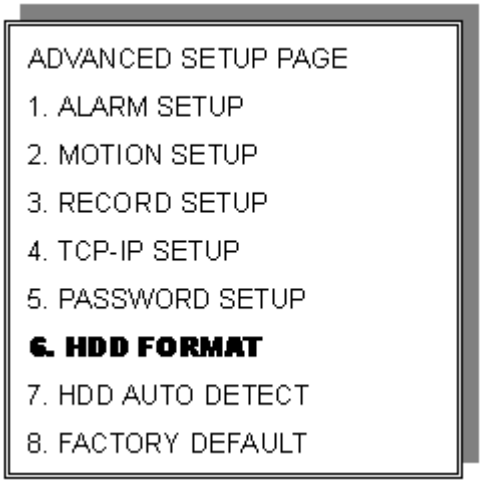
*NONE: user does not need to insert password before entering MENU

b. ADMIN password > 44444 (factory default)

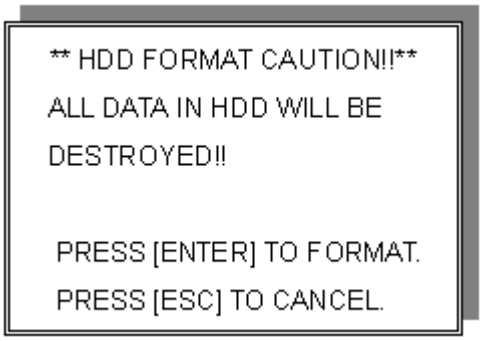
c. USER password > 11111 (factory default)

**NOTICE: Password must be 5 (five) characters ONLY!

HDD FORMAT



Press ENTER button and the **HDD FORMAT CAUTION!!** Warning will appear. Press (ENTER) to format, or (ESC) to cancel.

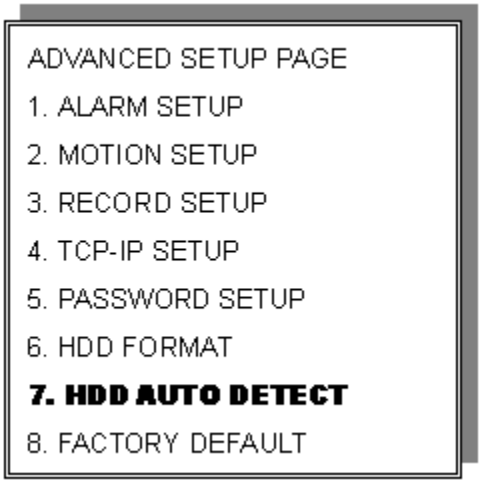


REMEMBER!!

*Press (ENTER) to FORMAT

**ALL DATA WILL BE DESTROYED!!

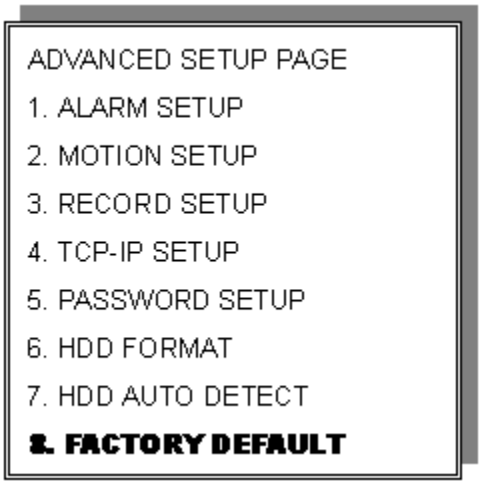
HDD AUTO DETECT



Must STOP recording to enter this MENU

This menu checks your system and gives you a read-out of all your HDD information.

FACTORY DEFAULT



CAUTION!!

ALL SETUP WILL BE CLEARED, AND RESTORE UNIT TO FACTORY DEFAULT!!

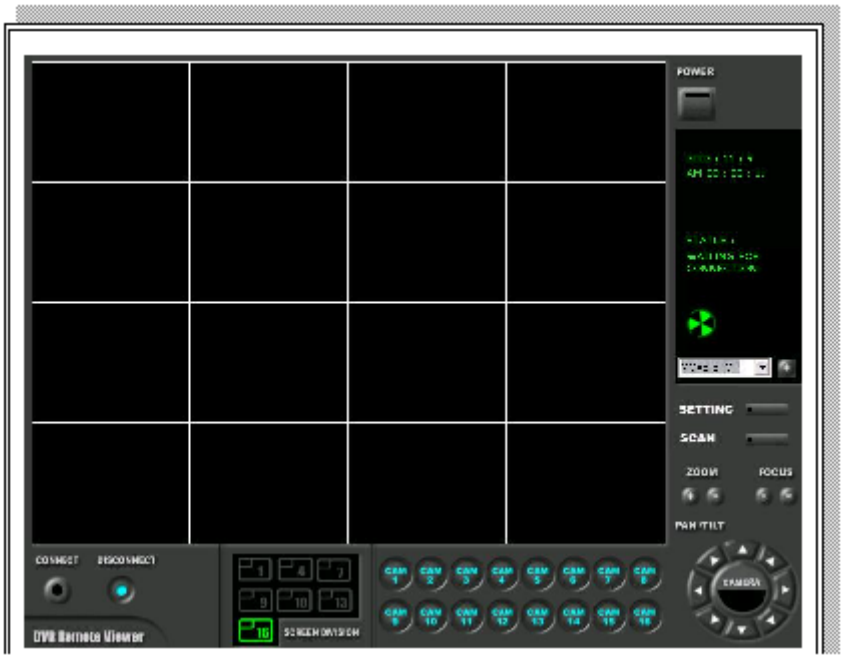
Press (ENTER) to restore, Press (ESC) to cancel.

Remote Viewer

General Description: TCP/IP option of DVR and enables user to view live pictures, and search recorded pictures, far apart from the DVR unit, and user can store selected recorded pictures on HDD of client PC. DVR does not use web browser method for access to DVR unit via Internet line, and you must install Remote Viewer Software included in the package on client PC before you try to access the DVR unit over IP network.

Click on the Remote Viewer icon on your desktop.

You will see the following window.



Function of each button in live-view window:

1 Power switch. Press power switch to quit. Before pressing the power switch button, press the disconnect button first.

2 Connect button. Press connect to connect to DVR unit via IP network to see live pictures of DVR unit. You will see the same live pictures, which are displayed on monitor of DVR unit with a certain time delay depending on transfer rate of IP network.

3 Disconnect button. Press disconnect button to cut connection to DVR unit via IP network.

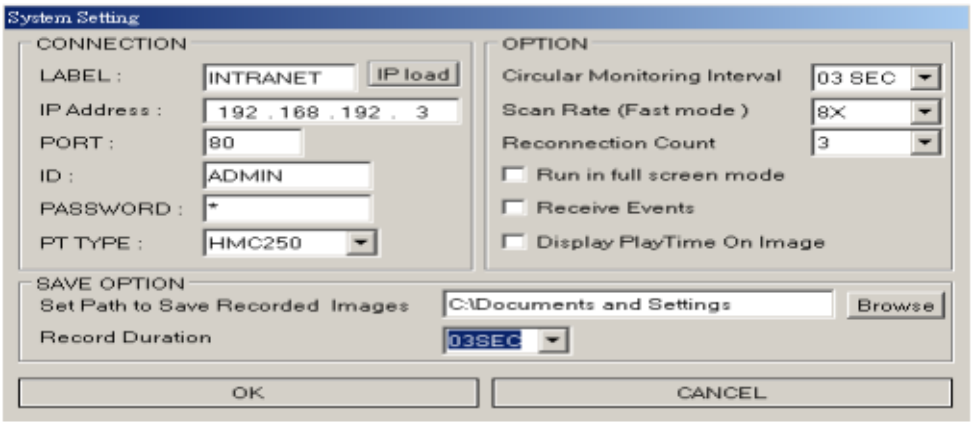
4 Screen division button. You can select to see pictures of any single channel or 4/9/16 channels at the same time. You can select channel numbers from 1 to 16 to see pictures of selected channels.

5 Channel number button. You can select channel number to see live pictures from selected channel.

6 Status window. It shows Date and Time. Further it displays "connection established" and a circular fan on the left bottom is rotating when connection button is activated, or "Waiting for connection" when disconnection button is activated.

7 Set button. 3 different set buttons

a) Setting : Press this button to input IP Address and others and to set circular monitoring interval and scan rate, as following dialog box.



- Input the IP Address that you have already entered into the DVR unit (TCP/IP SETUP) in **IP ADDRESS.**

- Input the Port number you already have entered into DVR unit in **PORT.**
  Default port number is 80.
- Input "ADMIN" in **ID.**
- Input the same password that you have set into the DVR unit in **PASSWORD.**
  Default password of the DVR unit is "44444".
- PT TYPE: This function is not available.
- Select **circular monitoring interval** ranging from 0.1 sec to 10 sec. The smaller the interval, the faster the picture of each channel rotates. The absolute circulation interval time varies from set value depending on data transfer rate of IP network.
- Select **scan rate** ranging from 1x to 64x. The larger the number selected the faster the search speed. The absolute search speed time varies from set value depending on data transfer rate of IP network.

b) Scan. : Press scan button to enter into search window. Using various operation buttons, you can search recorded pictures, save selected pictures on client PC, or print pictures. Refer to following paragraph "3. Search recorded pictures over IP network" for details.

c) Rotate: (4 Channel DVR ONLY) Press rotate button to see live pictures from channel 1 to 4 in rotation. Screen division must be set at 1 to see live pictures one after another in rotation. Speed of rotation shall be as per settings of circular monitoring interval.

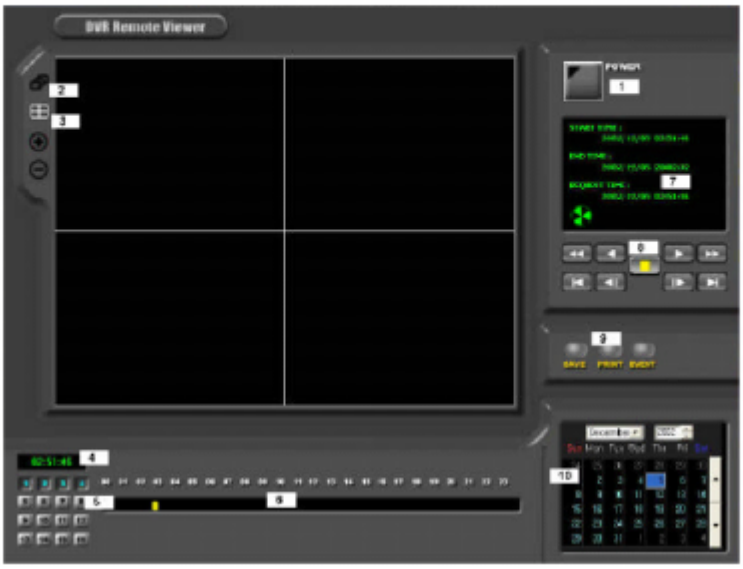
- Run in full screen mode: Full screen monitor display.
- Receive events: With alarm, motion, and video loss, the DVR status will display.
- (4 Channel ONLY) Display Play-Time On Image: Display's DATE/TIME.

8 PTZ control. This function is not available.

SAVE OPTION:

Choose the hard disk path where you are going to save.

2. Search recorded pictures via IP network



Function of each button in search window:

1 : Power switch. Press power switch to quit.

2 : Full screen button. Press full screen button to search recorded picture, channel by channel, in full screen.

3 : Quad button. Press Quad button to search recorded pictures in quad screen. 4/9/16 pictures from 4/9/16 channels at the same time.

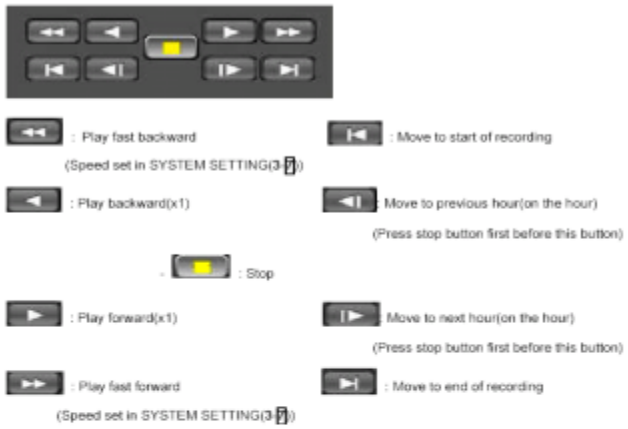
4 : Time of recording. Indicates time of pictures recorded.

5 : Channel selection button. Choose the full screen button (2). Press any button from 1 to 16 to see picture of corresponding channel.

6 : Time selection button. You can set the time to search by dragging the yellow scroll bar to the left or right. See time displayed in Time of Recording (4) green and find the time for which you want to search.

7 : Start and end of recording. It shows time from which recording started and recording ended. Further it show time from which search will start.

8 : Search operation button. You can search recorded data using various buttons useful for searching effectively as follows.


: Play fast backward
(Speed set in SYSTEM SETTING(3-7))
: Move to start of recording
: Play backward(x1)
: Move to previous hour(on the hour)
(Press stop button first before this button)
: Stop
: Play forward(x1)
: Move to next hour(on the hour)
(Press stop button first before this button)
: Play fast forward
(Speed set in SYSTEM SETTING(3-7))
: Move to end of recording

Speed of playback in DVR unit according to scan rate set in 3-7-a).

Scan rate set in 3-7-a)	or	or
1x	1x	1x
2x	1x	2x
4x	1x	4x
8x	1x	8x
16x	1x	16x
32x	1x	30x
64x	1x	60x

9 : Command button. The 16 Channel DVR has 3 different buttons Save, Print, and Event.
The 4 Channel DVR has 4 different buttons Save, Print, Event, and Record.

a) Save

During searching recorded pictures, you can save JPEG pictures one by one in the folder in the client PC by pressing the save button. Before pressing the save button press yellow stop button first. This saves the JPEG to the destination that you have set in SAVE OPTION.

b) Print

During searching recorded pictures, you can print picture, one by one, you see. Press yellow stop button before you press print button.

c) Event

Press event button to see alarm list saved in DVR unit, and search recorded pictures based on event list by clicking any one of list.

d) Record

(4 Channel ONLY) Saves AVI files to destination set in SAVE OPTION. Select record button to start and stop recording.

10 : Calendar. You can select the date and time to search pictures recorded at selected time and date. You can refer to start and end of recording in 7.

Notice: We recommend when clicking operation buttons, allow enough time for the DVR unit to execute commands. Too short of a time interval between selections may cause system hang-up in the client PC.

Notice: From time to time, connection will fail unexpectedly due to network conditions. When failure occurs, quit search window by pressing power switch (1), and then press the connect button in the live-view window and scan button to enter into search window again, to continue searching.

Notice: The DVR Remote Viewer Software is compatible with typical Windows operating system from Windows 98 to Windows XP.

Notice: To see continuous live view, we recommend not to select motion recording in RECORD SETUP menu of DVR. If it is set in motion recording, in SETUP menu, There is image transmission only when motions is detected.

Notice: When you search recorded data using client software and the DVR unit to which you access via IP network is in playback mode, there is no data recorded at this time. However, while you are connected with the DVR unit via IP network for live view, the DVR unit continues to record but at a lower recording rate.

Notice: At this DVR networking display, only one user can view the image through Internet.

16 CHANNEL DVR SPECIFICATION AND CONFIGURATION

SYSTEM NTSC/PAL

Video I/F

Input 16 CH Input 1.0Vp-p, 75ohm unbalanced (BNC Type)

Output 1 Output CVBS: 1.0Vp-p, 75 ohm unbalanced (BNC Type)

Horizontal Resolution 480TV Lines

S/N Ratio More then 40dB

Color 16.7 Million

Monitoring Method

Split Screen 1,4,9,16

Zoom Live & PB Available, x 2 zoom

Sequence Available

Screen Quality Full: 720(H)x 480(V) Active Pixels(NTSC); 720(H) x 576(V) Active Pixel (PAL)

1/4 Screen: 360(H) x 240(V) Active Pixels(NTSC); 360(H) x 288(V) Active Pixels(PAL)

Display Rate 480 frames per second (Real Time Display)

Recording/Play Function

Recording (Max) NTSC 0.1~60 Fields/Sec. (720 x480)

Storage Media IDE Hard Disk

Compressed Picture

M-JPEG

Picture Recording Method

Quad Screen Recording. Field Switcher Method Full Screen Recording

REC. Mode Real-Time / Time-Lapse / Event

Track Play Still, Back ward, Forward, Time, Search

Other Function

Simplex/ Duplex Simplex

Motion Detect Area division: 16 x12, on/off sector selectable, sensitivity adjustment in 10 steps

WEB Interface TCP/IP with client software

Alarm Max 16 Alarm Input / 2 output

RS485 For Remote Controller x 2 (Dry Contact)

Storage Internal 1 Or 2 HDD (3.5 IDE Interface). Optional HDD Bay Support. 4HDD/1 Unit, Max. 3 Units

Power Supply DC Adapter (12V DC 5A)

Audio Input 2 x Inputs

Audio Output 1 x Output

VGA Output 1 (Optional)

Mechanical

Operation Temperature 41F~104F (5C~+40C)

Operation Humidity Less then 90%

IR Remote Controller Build-In

Shuttle Control Input X 1

Weight Approx. 5KG (HDD 1EA)

Hard Disk Units 3.5" x 4 units, IDE interface

Mobile Rack Removable Rack x 4 units

Interface External Interface x 2 (Input x, Output x 1)

Power Consumption 40W

4 CHANNEL DVR SPECIFICATION AND CONFIGURATION

Input	BNC x 4 (VIDEO IN), BNC/S-VIDEOx 1 (MONITOR)
Output	BNC x 4 (VIDEO OUT), BNC/S-VIDEOx 1 (MONITOR)
Horizontal Resolution	480TV Line
S/N Ratio	More then 40dB
Color	16.7 Million
Split Screen	1,4
Zoom	Live & PB Available, x zoom
PIP	Available
Sequence	Available
Screen Quality	Full: 720(H) x 480(V) Active Pixels (NTSC)
	720(x 576(V) Active Pixel (PAL)
	1/4 Screen: 360(H) x 240(V) Active Pixels (NTSC)I;
	360(H) x 288(V) Active Pixels (PAL)
Compressed Picture	M-JPEG
Picture Recording Method	Quad Screen Recording
	Field Switcher Method Full Screen Recording
REC> Mode	Real-Time/Time-Lapse/Event
Track Play	Search, Still
Simplex/Duplex	Simplex
Motion Detect	Area Division: 16 x 12, on/off sector selectable
	Sensitivity adjustment
WEB Interface	TCP/IP with client software
Back-Up	Remote Back-Up Using TCP/IP
Alarm	Max 4 Alarm Input / 1 output
RS485	For Remote Controller
Storage	Internal 1 or 2 HDD
	Optional HDD Bay Support
	4HDD / 1 Unit, Max. 2 Units
Operation Temperature	41F~104F (5C~+40C)
Operation Humidity	Less then 90%
IR Remote Controller	Built-In
Dimension	19" Rack Size 1U, 44 x 434 x 360mm
Weight	Approx. 5Kg (HDD 1EA)
Power Supply	DC Adapter (12V DC 5A)